

WHAT IS CLAIMED IS:

1. A prosthesis comprising:

a body member made of biocompatible material, said body member having a plurality of inflatable chambers; and  
fluid guide elements operatively connected to respective ones of said chambers for enabling a differential filling of said chambers with a fluid.

2. The prosthesis set forth in claim 1 wherein said guide elements include a plurality of conduits connected to and communicating with respective ones of said chambers.

3. The prosthesis set forth in claim 2 wherein said guide elements additionally comprise a plurality of one-way valves disposed in communication with respective ones of said conduits.

4. The prosthesis set forth in claim 2 wherein said guide elements also comprise at least one terminal connector mounted to said body member and coupled with at least a plurality of said conduits.

5. The prosthesis set forth in claim 1 wherein said guide elements include a plurality of radio-opaque markers disposed on said body member adjacent to respective ones of said chambers for enabling a detection of needle insertion points for said respective ones of said chambers.

6. The prosthesis set forth in claim 5 wherein said markers are rings.

7. The prosthesis set forth in claim 1 wherein said guide elements include a plurality of one-way valves each disposed between two adjacent chambers for enabling a transfer of fluid from one of said adjacent chambers to another of said adjacent chambers, further comprising a receiver and an actuator mechanism mounted to said body member, said actuator mechanism being operatively linked to said receiver and said valves for selectively opening said valves in accordance with a signal picked up by said receiver.

8. The prosthesis set forth in claim 7 wherein said receiver is a wireless receiver and said signal is a wirelessly transmitted signal.

9. The prosthesis set forth in claim 1 wherein said prosthesis has a form suitable for simulating the shape and size of a human breast.

10. The prosthesis set forth in claim 1 wherein said guide elements include a plurality of one-way valves each disposed between two adjacent chambers for enabling a transfer of fluid from one of said adjacent chambers to another of said adjacent chambers upon an application of an external compressive force to said one of said adjacent chambers, to increase a fill level in said one of said chambers.

11. A method for reshaping a portion of an organism, comprising:

providing a body member made of biocompatible material, said body member having a plurality of inflatable chambers;

implanting said body member into a patient in a pre-established location;

selecting a desired shape of the portion of the organism; and

differentially expanding said chambers to respective fill levels to at least approximate said desired shape.

12. The method defined in claim 11 wherein the selecting of said desired shape includes:

scanning a part of the organism to generate a digitized representation of said desired shape; and

loading said digitized representation into an electronic memory.

13. The method defined in claim 12 wherein the scanning of the part of the organism includes:

capturing a plurality of images of the part of the organism from different angles; and

analyzing the images to determine a digitally encoded three-dimensional representation or model of the part of the organism.

14. The method defined in claim 13 wherein said images are two-dimensional images and wherein the capturing of said images includes operating a camera.

15. The method defined in claim 12 wherein the scanning of the part of the organism includes utilizing a laser beam to collect surface data of the part of the organism.

16. The method defined in claim 12 wherein the scanning of the part of the organism includes operating mechanical position sensors.

17. The method defined in claim 12, further comprising selecting said fill levels for respective ones of said chambers to generate said desired shape, the selecting of said fill levels including automatically analyzing said digitized representation to compute said fill levels.

18. The method defined in claim 11 wherein the selecting of said desired shape includes:  
storing a library of possible shapes of said portion of the organism in an electronic memory;  
selecting a plurality of said possible shapes;  
generating, on an image reproduction device, a plurality of images each corresponding to a respective one of the selected possible shapes; and  
after the generating of said images, selecting one of said plurality of said possible shapes as said desired shape.

19. The method defined in claim 18, further comprising storing in said memory, for each of said possible shapes, a plurality of target fill levels for respective chambers of a prosthesis, the selecting of said plurality of fill levels for said respective ones of said chambers including

automatically selecting the target fill levels corresponding to or associated with said desired shape in said memory.

20. The method defined in claim 11 wherein said body member is provided with a plurality of conduits extending to respective ones of said chambers from a terminal connector on said body member, the differential expanding of said chambers including feeding fluid via said conduits to said respective ones of said chambers.

21. The method defined in claim 20 wherein said the differential expanding of said chambers includes coupling a connector to said terminal connector, the feeding of fluid via said conduits taking place via said connector.

22. The method defined in claim 11 wherein said organism is a female human being and said portion of said organism is a human breast.

23. The method defined in claim 11 wherein said body member is provided with a plurality of markers disposed adjacent to respective ones of said chambers, the expanding of said chambers including:

scanning said patient to detect said markers;

inserting a hollow needle into said chambers at respective locations indicated by said markers; and

introducing a pressurization fluid into said chambers through the inserted needle.

24. The method defined in claim 11, further comprising:  
transmitting a wireless signal into the prosthesis; and  
operating an actuator inside the prosthesis to open a valve between two of said chambers,  
thereby effectuating a change in fill levels in said two of said chambers.